Artificial Intelligence

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Course Overview:

Artificial Intelligence Training will give you a complete idea of Artificial Intelligence Programming and its fundamentals on practical automation applications. The Artificial Intelligence course modules, topics-end projects, and assignments in the Artificial Intelligence course cover Python in Artificial Intelligence to Machine Learning skills like Data Science, CNN, perceptron, TensorFlow, Neural Networks, NLP

Training Features:

- Comprehensive Curriculum: A well-structured curriculum covering Basic Python, Numpy, SciPy , Linear Models, KNN Clasifiers and so on.
- Hands-on Projects: Apply your theoretical concepts through practical case study and exercises.
- Expert Instructors: Learn from industry experts with more than 10 years of experience.
- Interactive Learning: Engage in discussions, Q&A sessions, and collaborative activities.
- Flexible Schedule: Access course materials at your own pace, with regular live sessions for Q&A and support.

Delivery Mode:

- Online Live Virtual Instructor Led Training

Target Audiance:

The Basic Requirement to start a career as an Artificial Intelligence AI, you'll need a Bachelor's degree or at least 1+ years of experience in Information Technology (IT). A Bachelor's degree in Technology justice will help you get the job.

Key Learning Outcomes:

The ability to do something well expertise.

- Introduction to Python
- Intermediate Python
- Data Manipulation and Analysis
- Supervised Learning
- Unsupervised Learning and Dimensionality Reduction
- Introduction to Deep Learning
- CNN, RNNs, NLPs
- Advanced Deep Learning

Certification Details:

- Complete at least 85 percent of the course or attend one complete batch
- Successful completion and evaluation of the project

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Chapter 1: Introduction to Python

- Python basics and setup
- Variables, data types, and operators
- Control structures: if statements, loops, and functions
- Data structures: lists, tuples, dictionaries
- File I/O and error handling

Chapter 2: Intermediate Python

- Object-oriented programming (OOP) in Python
- Chapters and libraries
- Exception handling and debugging
- Virtual environments and packaging
- Unit testing in Python

Chapter 3: Data Manipulation and Analysis

- Data manipulation with NumPy and Pandas
- Data visualization with Matplotlib and Seaborn
- Exploratory Data Analysis (EDA)
- Statistical analysis with Python
- Jupyter Notebook for interactive analysis

Chapter 4: Supervised Learning

- Linear regression and logistic regression
- Decision trees and random forests
- Support Vector Machines (SVM)
- Model evaluation and selection
- Cross-validation techniques

Chapter 5: Unsupervised Learning and Dimensionality Reduction

- Clustering algorithms: K-Means, DBSCAN
- Hierarchical clustering
- Principal Component Analysis (PCA)
- t-Distributed Stochastic Neighbor Embedding (t-SNE)
- Anomaly detection

Chapter 6: Introduction to Deep Learning

- Neural networks basics
- Building neural networks with TensorFlow/Keras
- Activation functions, loss functions, and optimizers
- Training deep neural networks
- Hyperparameter tuning

Chapter 7: Convolutional Neural Networks (CNNs)

- Image data preprocessing
- Building and training CNNs for image classification
- Transfer learning with pre-trained models
- Object detection with CNNs
- Image generation with Generative Adversarial Networks (GANs)

Chapter 8: Recurrent Neural Networks (RNNs) and Natural Language Processing (NLP)

- Sequence data preprocessing
- Building and training RNNs for text data
- Word embeddings (Word2Vec, GloVe)
- Sentiment analysis
- Sequence-to-sequence models for language translation

Chapter 9: Advanced Deep Learning

- Long Short-Term Memory (LSTM) and Gated Recurrent Unit (GRU)
- Attention mechanisms
- Reinforcement Learning fundamentals
- Deep Reinforcement Learning with Q-learning and DDPG
- Ethics and responsible AI in Deep Learning

Chapter 10: Real-world AI Applications and Project

- Building an end-to-end AI project
- Deploying AI models
- AI ethics and bias mitigation
- Preparing for AI job interviews
- Final project: Developing a Deep Learning-based AI application

Assessment and Projects:

- Weekly quizzes on Python, ML, and DL concepts
- Hands-on Python programming assignments
- Data analysis and visualization projects
- ML and DL model development projects
- AI application development project